

REMARKS/ARGUMENTS

Applicants acknowledge the restriction requirement and the election as set forth in the Examiner's Office Action.

Applicants have amended claim 5 to eliminate the objection under 35 U.S.C. § 112. Further, applicants have amended claim 5 to recite that the catalyst has a surface area of at least 77 m²/g. Claim 6 indicates that it is at least 90 m²/g. These are both supported by the specification. Further, applicants have added new claims 10-12. Claim 10 indicates that the reaction gas is a mixture of hydrogen, carbon monoxide, carbon dioxide and water, in other words, syngas. Claims 12 and 13 recite the catalyst in terms of product by process limitations. Applicants would maintain that these pending claims are patentable over the cited art.

The cited art discloses the use of a molybdenum carbide catalyst in a water-gas shift reaction. It uses relatively standard procedures to form the molybdenum carbide catalyst and indicates a maximum surface area of 61 m²/g. Applicants' invention is the use of a much higher surface area molybdenum carbide catalyst having a surface area of at least 77 m²/g. The chart at page 14 shows the very significant improvement in going from 54 to 77 m²/g. The higher surface area catalyst provides almost a 50% improvement in reactivity or carbon monoxide loss. The magnitude of the improvement is not suggested by any of the prior art.

Further, the additional claims, particularly 11 and 12, recite the method of forming the very high surface area molybdenum carbide. The use of a catalyst formed by this methodology is, again, not suggested by the Bishop reference.

In light of this, applicants request reconsideration of the outstanding Office Action and allowance of the pending claims.

Respectfully submitted,

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